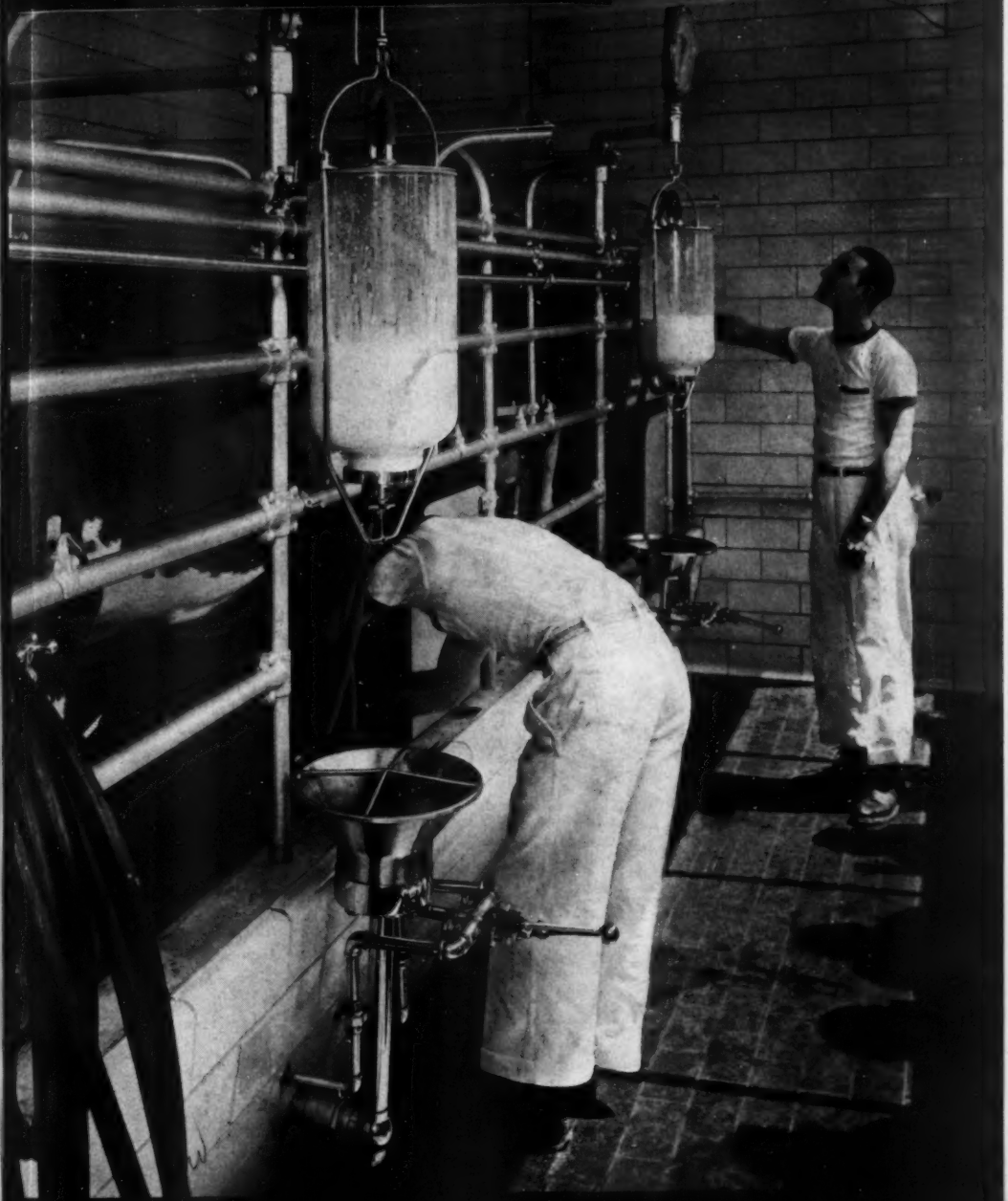
ELECTRICITY on the FARM

SEPTEMBER
1939



Right: A portable G-E motor does the feed grinding and grain elevating

Below: (1) Mr. Schoof's records prove that electricity pays

(2) Silo filling with portable motor

(3) Mr. Schoof's annual power bill for hay hoisting averages only sixty-seven cents

"MY THREE ELECTRIC MOTO

Save Me $363 a Yea

Says Bill Schoof, Macomb County, Michi

"ON OUR 120-acre stock, grain, and dairy farm," he says, "I use three electric motors to do seven farm jobs. My records show that these three motors save me $363 each year over my old methods. I arrived at this figure after deducting both my electric power bill and an annual depreciation charge of about $240 on all equipment."

Mr. Schoof operates his "family" farm independently of outside help. During harvest season he doesn't have to exchange work with his neighbors. He can perform his farming operations at the most convenient and profitable time. Mrs. Schoof isn't burdened with harvest meals for extra hands. In addition, she says that these motor profits have made it possib her to have fourteen electric ances in the home.

Perhaps electricity can be m paying proposition on your farm More and more farmers all ov country are discovering the trical way to independence—a the same time they are incre their profits and the enjoyme living on the farm. Collect these farmers are using elect for more than 200 different farm General Electric has prepare bulletins, GED-664, and GE which illustrate many of these Just drop a postal card to 6-201A, General Electric Com Schenectady, N. Y., for you copies.

Rural Electrification Section
General Electric Company
Dept. 6—201, Schenectady, N. Y.

Please send me copies of Bulletins GED-664 and GED-641.

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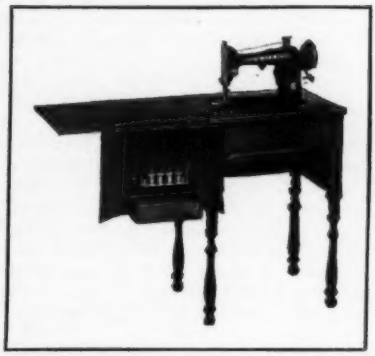
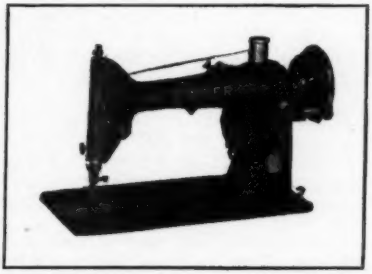


Handsome walnut cabinet. Convenient rack and tray for spools, etc.



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SINGER SEWING MACHINE COMPANY
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Editor's Chat

MINIMUM "BILL"

Minimum "Bill" is the fellow you fought for and were married to when you first became attracted to electric service. You had "stepped out" a little and were keen about the thrills of electricity, but you were bashful and too scared to go after a big, handsome fellow. You thought what you should have was a little guy who would help warm the bed without taking too much space in it.

Minimum "Bill" is always present at the coming-out parties for electricity. The power company man or the co-op. promoter brings him in and parades him around the hall as if he was the eligible bachelor President of the Sure-Shot Insurance Company. Soon he becomes so involved in the mental processes and heart throbs of the unattached farms, and dances so close that they fail to see the handsome big Prof. with money in his jeans who is standing across the hall. *His* name is Profitable Use.

Those folks who get married to Minimum "Bill" find that in many respects he is a bad hombre. He excites your worrier. You worry about his size; then you worry lest you will use a little electricity above the minimum; and you worry for fear that you will miss that last half kilowatt-hour that's included in the minimum. Worry is bad. Doctors say so.

Minimum "Bill" is mean, too. When he's got you, like as not he'll make you drag out the old oil lamps at the end of the month or take your ironing over to Prof. Uses house, because, he says, he's "all used up this month."

It is no joke the way Minimum "Bill" is slipping it over on the Boards of Directors of the Co-ops. either. Few of them recognize him as a philanderer until it is too late. Several have given him a swift kick that has boosted him some; but when he wins a community it is tough going for Profitable Use—And the Prof. is really a fine friend when you know him.

Maybe I'm peculiar, but sometimes I think the Power Companies and the Co-ops are the poorest love-makers in the country. They send Minimum "Bill" out to be their John Alden for them—and he marries the girl himself. Then poor Capt. John Smith Utilcoop Use has to fume around until "Bill" dies or is divorced before the Captain can get married.

The best Minimum "Bill" I ever met was out in Indiana. He was a big bruiser—$10 a month—and Joe Kerkhoff told him he could not hang around that farm unless he could do enough work to earn the $10 and his keep. Well, fortunately he was big enough so he did the work of a team, two men and a boy, besides helping Mrs. Kerkhoff with the chickens and in the kitchen. He was versatile, too, and showed them how to do things easier and to live better, in addition to making money for them. They liked him so well they forgot the "Minimum" and just accepted him as Prof. Electricity. Mr. Kerkhoff says he really taught them how to live.

If any of you must marry a Minimum "Bill," my best advice is to be bold and pick a big one.

For those of you who do not like your facts with tales, the de-taled facts are these: Electricity offers too many opportunities for better living, saving of labor, better quality of products, increased profits and real genuine satisfaction, to be bought or sold on the basis of a minimum bill. We do not buy gasoline, clothing, flour or candy that way. Electricity should be purchased for what it can do for us and not as a "flier" in oil stock of which we agree to buy a certain minimum amount, hoping to "get in" on a good thing. Buy electricity for what it will save you on ice bills, gasoline and oil bills, custom grinding expense, labor costs, coal and wood; for the better price it will give you on cooled cream and eggs, on uniformly separated milk, well cleaned grain, increased fall egg production; and for the improved health and joy of living with better lighting in the home and chore spots, with household refrigeration, semi-automatic cooking, running water, radio. If it will not give you your money's worth in profits, health and satisfaction, then it is bad business for you to buy it.

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SOME POINTERS ON DAIRY FARM EQUIPMENT

What Size Motor for the Silo Filler, Hay Hoist and Wood Saw; a Multi-purpose Electric Water Heater

By J C. SCOTT

Mr. Scott is Agricultural Engineer for the Puget Sound Power & Light Company.

MANY dairymen are finding the electric motor admirably suited for use in operating silage cutters. However, there is considerable difference of opinion as to the size of motor best suited to run this machine.

Mr. George Damitio, who has been operating a dairy on his farm for the past twenty years near Elma, Washington, decided last year that instead of hiring a tractor to power the silage cutter he would do the job with an electric motor.

Mr. Damitio told me that since he had never used an electric motor before for this purpose, he started in making inquiries. From what he said, he must have received a considerable variety of advice with regard to the size of motor to use.

He had about made up his mind to get a 7½ h.p. motor when he talked to Al Setter, the power company's agricultural engineer, who advised: "Why spend more money than is necessary in buying a 7½ h.p. motor when a 5 h.p. motor will do the job just as well?" Mr. Damitio finally decided to try a 5 h.p. motor, but it was with considerable apprehension as to the results. "But," he said, "now I am of the same opinion as Mr. Setter. Why spend more money than is necessary on an electric motor when a 5 h.p. motor will do the job and do it well?"

Mr. Damitio put up corn for silage, and said that he had absolutely no trouble insofar as the power was concerned. "Of course," he added, "I suppose one could clog the cutter, but the 5 h.p. motor furnished power enough so that the machine took the corn just as fast as we wanted to feed it. We operated a 13-inch cutter, and we had two men feeding the machine, too."

In answer to my inquiry as to how long it took to put one wagon load of corn through the machine, he said: "We timed it during our regular operation, and it took just about 8 minutes for one load. All the time that one might gain by crowding the machine would amount to very little. Crowding is not necessary. Our crew consisted of two men feeding, one man in the silo, three men in the field, and two teams."

A 5 H.P. motor operated this 13-inch cutter with two men feeding it as fast as they cared to work.

I realize that there have been occasions when dairymen feel that a 5 h.p. motor is not large enough to operate the silage cutter. However, experience has proved that in such cases, the difficulty is often caused by dull knives. Knives should be kept sharp. Also the speed of the machine should be no greater than necessary to elevate the silage, about 350 to 500 revolutions per minute; and the housing around the fan should fit close to the fan. If the housing gets bent so the clearance is more than ¼ in. the efficiency of the cutter is considerably decreased.

Water Heater Most Valuable

Mr. Damitio is not only an euthusiastic user of electric motors, but has found that an Electric Dairy Water Heater Tank in the milkhouse is, in his words, "One of the best pieces of apparatus that I ever had on the farm." I might say that Mr. Damitio's dairy milkhouse, as well as utensils, are kept scrupulously clean. He finds that the electric water heater is not only a great help in this connection, but, he says, "On cold mornings I have plenty of warm water waiting for me to use in washing the cows' udders. If the pipes are frozen in the milkhouse, we have hot water to thaw them. The teat cups are warmed with warm water before they are used. I use the warm water for washing my hands before milking and that is no small help to a man when he starts milking on cold mornings. If a cow gets sick and we need hot water, day or night, we

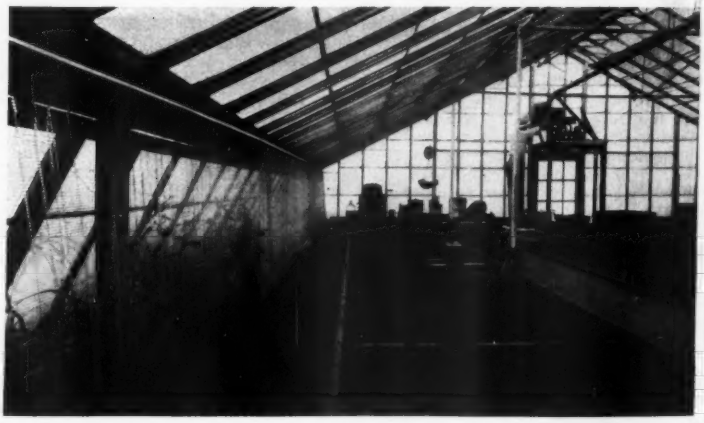
In the corner is "the best piece of equipment I ever had on my farm"—a water heater. Running water and milk cooler are handy.

have it. Also I often use the warm water for mixing calf feed. In fact, this electric water heater in the milkhouse is one of the handiest things around the ranch."

I noticed that Mr. Damitio used an electrically driven milking machine, and asked him how he liked it. He replied, "I have been using the milking machine for six years, and if I had to milk by hand I would certainly quit the dairy business. I couldn't do it. The milking machine takes the drudgery out of milking and makes it a pleasant piece of work."

"Since I have the 5 h.p. motor for the silage cutter, I intend to fix up a one-man hay hoist so that one man on the wagon can drive up alongside of the barn and operate the motor, and the hay hoist, from the wagon. There is no necessity, as I understand, for one man to be on the wagon to operate the fork and another man to operate the hoist, as the Oregon system of hoisting simplifies this operation so that one man can do it all. Then there is that pile of wood to be sawed, too, and the 5 h.p. motor is going to do that also."

Greenhouse Cooled with Water Trickle



SEVERAL years ago certain experimental work with plants at the University of Tennessee called for a greenhouse temperature 5 to 10 degrees cooler than could be maintained by shading and ventilation. The desired temperatures were brought about in a novel manner. A section of glass was removed from above the door in the end of the house. A 3 h.p. motor driven multivane fan was placed on a platform in front of this window with the discharge extending out through the opening. All of the other windows in the house except those on the shaded side were closed. Above these open windows was placed a 1-inch pipe with small holes drilled in it about every 6 inches. Netting, similar to a fish seine, was tied to the pipe. When it was desired to cool the house, the side windows were opened, the water turned on so it would trickle down over the net, and the fan was started. By exhausting the air from the greenhouse with the fan, fresh air was drawn in through the netting and was cooled by contact with the cool water and also by evaporation of the water. An attic fan or barn ventilating fan would have served as well.

G. W. K.

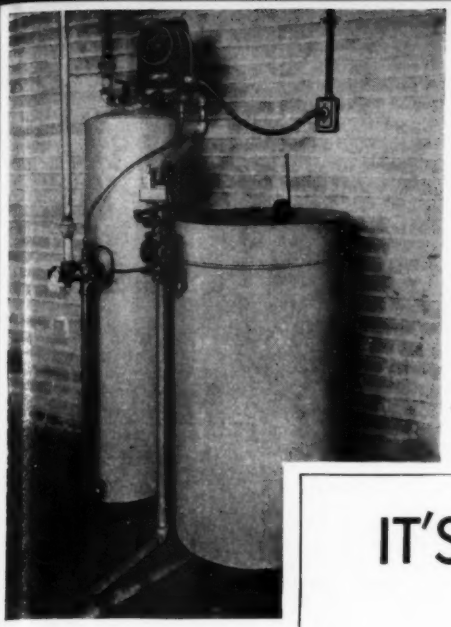
School!

All of life is a school—just learning how to get along with folks—how to do something for someone else which in turn will make us happy and provide us with a living. Growing wheat, manufacturing automobiles or being President—it's all the same; doing something *well* for someone else.

School is a process of oiling ones personal machinery so it will wear well and run well when we are older and must take the load. It can be fun, too, if you try to make it fun. You will look back on it with pleasure.

THE EDITOR.

THE electrical industry has $750,000,000 invested in rural lines.



Here is a Zeolite hard-water softener. The rejuvenating salt is in the brine tank at the right.

Zeolite Softens Hard Water at About 1¢ per 100 Gallons, Prevents Lime Deposits in Pipes and Tanks and Saves Fabrics, Hands and Soap. It is Easy to Install and Keep in Operation

IT'S PRETTY SOFT

By E. R. MEACHAM

WHEN we bought our home in Nakoma, it was piped for soft water. We thought the arrangements were pretty good, too. Out in the back yard we had an underground cistern with a big sewer tile for a neck. This neck extended well above ground to keep out surface water and was stoppered with a heavy disk of concrete. The connections from the downspouts on the house to the cistern were all underground out of the way. There was an ordinary pitcher pump over the laundry tubs in the basement and a nice white enameled one on the kitchen sink.

It all looked and sounded very attractive when shown by the enthusiastic real estate salesman. But when we began to use that soft water, we found several things wrong with that system.

Cisterns Not Perfect

First, the water was cold. For almost any practical use of soft water we had to pump it, then carry it to the stove and heat it, kettleful at a time. We could have cured all that by putting in a little automatic pump and a water heater, but there were other problems.

As a matter of fact, the water wasn't very soft. Surprising as it seems, cistern water is often quite hard. The acids it always contains cause the water to take up lime from the walls of the cistern itself.

Worst of all, it wasn't clean. It is practically impossible to keep cistern water clean. Good effective cistern filters are rare and without careful maintenance they soon become useless. Thoroughly cleaning the cistern, if it were done often enough, would help some, but that is quite a big job and at best it only removes the visible accumulation of filth and vermin. It does not destroy the bacteria nor remove the sources of pollution.

Anyway, our cistern water looked like weak tea, but smelled stronger. It seemed all right for boiled laundry, but from the sanitation standpoint there was no object in washing dishes, or the baby, in stuff like that. So we took out the pump at the sink and later on the one at the laundry tubs.

We were already using a loop of pipe in the furnace for heating some of our regular hard water supply. But this loop filled up with lime scale so it was not very effective. That is one of the indirect expenses of hard water—it costs more to heat it and the heating equipment doesn't last nearly so long.

Incidentally, the furnace coil is neither an efficient nor economical means of heating water, anyway. It is entirely uncontrolled; it is not effective for several months of the year, and it does not make good use of the fuel.

When we put in a fully automatic electric water heater, we decided to solve the soft water question once and for all. We did not even consider that unreliable and unsatisfactory cistern water, even though we already had what is called a good cistern. Instead, we bought a modern Zeolite water softener. That takes in our well water, which is clean and pure, but very hard, and turns out water as soft as rain and clear and sparkling as the dew.

Zeolites Do It

Without going very far into chemistry, I would like to tell you that there is a whole family of natural minerals and manufactured substances known as Zeolites. They all have the peculiar and very useful ability to absorb the lime and other harmful minerals from hard water. In exchange they give up harmless substances that remain dissolved in the water and do not form scums, soap curds, or lime deposits.

A water softener using Zeolite is just a tall, narrow, upright tank very much like a range boiler. On the outside it may have various pipes, valves and connections. Inside it has no moving

The simplest bathroom can easily provide the luxury of soft water.

parts, but is pretty well filled with a thick bed of gravel and the granulated Zeolite mineral. The water is softened simply by percolating through the mineral.

Installing our softener was a very simple job. My young nephew and I did it one evening after supper and we make no pretense of being plumbers. We just set the tank up in a convenient corner of the basement, not too far from the drain. Next we ran a cold water pipe to it and another pipe from the softener to the water heater. Then every hot water faucet in the house—sink, bath tub, and lavatory, furnished fresh, clean, hot *soft* water.

That's all there was to it. But we have found, as anyone does, that this makes a world of difference in the work of the household and the life of the family. For soft water prolongs the life and improves the looks of all washable fabrics from silk stockings to wool blankets. It is distinctly better than hard water for cooking and for making tea and coffee. It is possibly a safeguard to health, and is certainly an aid to beauty, while for every cleaning purpose it produces better results with less soap and much less labor than hard water.

However, even the Zeolite softener, miraculous as it is, will not work indefinitely without attention. When it has taken up all the hardness it can hold, it must be regenerated. That is, the chemicals it has absorbed from the hard water must be removed and the Zeolite changed back to its original condition so it can soften more water. Fortunately this is a cheap and easy process. It is accomplished by flooding the Zeolite with a strong brine of common salt. As very little of the Zeolite is dissolved or used up in these exchanges, they can go on for years.

Our softener is designed to take up "20,000 grains of hardness" before it needs regeneration. Our water contains 18 grains of hardness to the gallon. Therefore we get over 1100 gallons of soft water between salt treatments. When we notice that the water is getting a bit hard, I open the top of the softener, and put in 14 pounds of common salt. By adjusting the valves I flush this slowly through the Zeolite bed and out the drain to waste. A simple soap test shows when the brine wash is complete. Then the softener is ready to deliver 1100 gallons more of clean, sanitary soft water. With salt at something less than a cent a pound the cost of softening is about one cent a hundred gallons.

EDITOR'S NOTE: Mr. Meacham has described a manually operated softener. Completely automatic units with electrical brining and flushing mechanisms are also available.

Electric Drier for Separator Parts

By G. H. BLIESNER
Rural Service Dept.
Portland General Electric Co.

WHEN the dairyman does all of his utensil washing in the milk house he has the work of drying them satisfactorily. Rust often results when metal separator and milking machine parts are not thoroughly dried. Mr. Ross Cruickshank of R. F. D. 2, Dayton, Oregon, does his utensil washing in the milk house. He had the problem of drying, so he built himself an electric drier. The drier is used principally to prevent rust accumulating on the separator parts, especially the disks. A 12" x 12" x 18" box was built and lined with sheet metal on the inside. One inch boards were used for the sides and bottom. An eight inch circular opening was cut in one end to insert a metal pipe. The bottom of the drying box is curved to direct the air upwards over the separator parts. Drying is accomplished by a six inch fan type heater with a 1375 watt heating element which operates a few minutes each day. This heater stands at the end of the open pipe as shown. It will help warm the milk house in the winter or may be carried to the house for use in the bath room. Water in retainer type parts is first removed to hasten drying.

Mr. Cruickshank states that he has washed his separator disks in the milk house and dried them in this drier for the past two years and no signs of rust have appeared.

HANNAH-BY-THE-WEEK

Most Hired Girls Have Spasmodic Spurts and Pouts; But Not Our Four Servants. And I Send Up a Silent Prayer of Thankfulness

By LOUISE PRICE BELL

When I think of it now I have more sympathy for Hannah than I did as a child.

ALMOST any modern farm wife can recall the days of her childhood when her mother had one "Hannah-by-the-week" (or month, or year) and the two women worked like slaves all day and sometimes a bit into the night. For fruits have to be canned when they are falling from the trees, berries and tomatoes won't forestall ripening, and all this canning has to be done along with the regular routine of farm housework. And in those days, that was no small matter!

I can still almost hear the arguments between my mother and her general maid of all work. They were gentle arguments, true, for mother was far from a difficult mistress. But in those days (and I suppose it is equally true still) "hired girls" had spasmodic spurts, at which times they insisted upon an extra "day off" or higher wages, or when they pouted disgracefully when told the minister and his wife were to have dinner with us!

When I think of it now, I have more sympathy for Hannah than I did as a child. After all, it seems as if it was quite a bit to expect that one maid should wash, iron, clean, bake, cook . . . and still always remain calm and sweet-tempered. Remembering all this, hardly a day passes but what I send up a silent prayer of thankfulness for the efficient group of servants who hold forth in our little farm house.

We will pay no more while they are in our house.

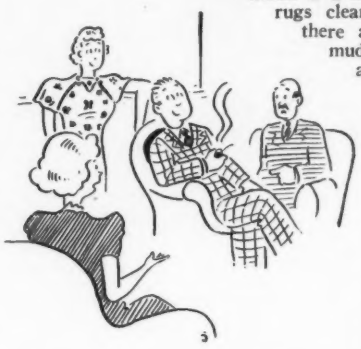
. . . and I feel rested as a sixteen-year-old.

Oh, no, we aren't wealthy farmers at all . . . in fact, our farm is about the size that my father's was and our income is no more than was his. Yet we have four helpers . . . quiet, uncomplaining, always ready and willing to do what is expected of them, never asking for higher wages or a day off, and on duty twenty-four hours of the day. Not only that, but they cost us far less than Hannah cost my father; we paid a fair sum when they came to us and we will pay no more while they are in our home. And when I say that our kitchen helper—Cook—has seven small helpers and that rather than being in the way they are unobtrusively competent, you may be surprised.

Or perhaps by now you have guessed it . . . our helpers are electrical! Cook is our gleaming white electric range with its deep well cooker for long slow cooking, its automatic oven which permits me to go down in the lot and help Bill when I feel in the mood and come back with him to find our chicken done to a turn! And her seven small helpers are our electric mixer which permits me to whirl up a cake while the baby is taking his bottle . . . the automatic toaster which even six-year-old Betty can manipulate (much to her delight), the electric waffle and pancake irons, the roaster which doesn't add heat to the kitchen on hot summer days, the coffee-maker which produces the best coffee we ever tasted, and last, but not least—the automatic refrigerator. In this, we know that foods will keep for days and therefore I can

in one morning concoct several deserts and salads and have the comfortable feeling during the rest of the week when larger tasks call me, that they are always ready to round out our meals. In this helper, too, we made frozen desserts which—because we use our own eggs, milk and cream—are inexpensive and delicious, besides delighting the youngsters. No wonder, then, that we welcome rather than object to, Cook's assistants.

There are no "Blue Mondays" at our house, for our "washlady" turns our snowy clothes out so early in the day that I often am free to pack the children and myself into the car when Bill goes to town late Monday afternoon. And that means that when we leave, the clothes are sprinkled, folded and ready to iron the next day, the children and I have had baths and naps, and I feel as rested as a sixteen-year-old, even though the clothes basket is heaped high with clothes to prove that my washing was no small one.



Is it any wonder that we feel rather smug when we hear people discussing the "difficult" servant question.

Remembering my mother's tired face as she turned over the ironing to Hannah on ironing day, after having spent the morning at the task herself, I am grateful as I sit before my automatic ironer and turn out professional-looking apparel with almost no effort. Even my ruffled bedroom curtains are a delight in their frilly, unwrinkled cleanliness, and Bill's shirts are my pride and joy.

In our home we have no big stir-up called cleaning day. For our third helper in the form of a good looking, heavy-duty vacuum cleaner keeps rugs and furniture meticulously clean with only a half hour's work every day or two . . . or sometimes three. And that means that it keeps dog hairs and bread crumbs from becoming too thick, which is a more difficult task than keeping rugs clean in a city apartment where there are no tiny feet to track in mud, no graham crackers crumbled about . . . we really are a normally messy family!

Is it any wonder that we feel rather smug when we hear people discussing the "difficult" servant question? Or that we often gently suggest that they are overlooking the most efficient helpers of all if they are not equipping their houses with servants such as ours?

We have other helpers, too. All of the children's and my clothes are quickly and smartly made on my electric sewing machine, our tired bodies and jaded spirits are often rested and lifted by symphonies coming from our electric radio, and on warm days the air is kept moving by small electric fans in the children's room and mine, especially at nap time.

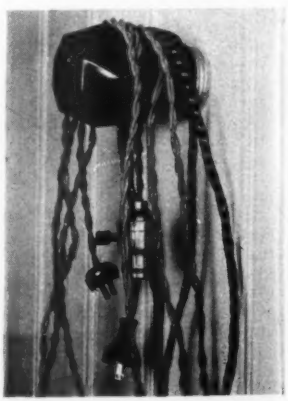
And as to the hired men . . . the helpers which Bill has—electric pump, tool grinder, motors for silo filling and concrete mixing electric hot beds . . . well, I can't get started on those. Bill would have to tell about them himself! Anyway, I claim that we are lucky folks to live in this age of efficient, money saving electrical "Hannahs"—every day.

Extension Cord Hanger

EXTENSION and iron cords are hazardous when the insulation is worn or cracked or the strands of wire broken. Cords are flexible because they are made up of a large number of fine twisted wires. If some of the strands break due to sharp bending or kinking of the cord, then each remaining strand has to carry more current. If enough strands break, the remaining wires will get hot and burn off. Broken strands sticking through the insulation may cause fire or shock.

Don't Fold Cords

Here is a method for taking care of cords suggested by one of our readers, Mr. D. P. Anderson of the Frigidaire Division of General Motors in Fort Worth, Texas. He says: "Don't fold cords and put them in drawers. Tack the close-fitting lid of a tin can,—say a baking powder can, to the wall and put the can in the lid. There are also many types and kinds of glass containers on the market such as pint fruit jars, the lids of which screw on. These make good cord hangers as well as providing a handy place within the jar for extra plugs, fuses, etc. The cans or jars may be painted to fit your color scheme. The idea can be used with built-in ironing boards, placing the hanger high to allow cords to hang free."



The glass jar shown in the illustration tapers toward the top which keeps the cords from slipping off. If the cords tend to slide, a turn may be made around the jar.

Arundel High School class in vocational agriculture. 301 fine New Hampshire Reds, average weight 1¼ pounds, make up the class brood. From left to right—standing: Phillip Sears, Walter Howard, Eugene Deinlein, Ralph Watts, Donald O'Rourke, Millard Clark, Clarence Ritchie, Gerald Clements, Meade Turner, Mason Birckhead, Stephen Jacobchik, Charles Dick, and Mr. Abram Z. Gottwals, class instructor. Left to right—kneeling: Harvey Behringer, Francis Jones, Alvin Cole, Louis Boehm, and George Polyonski.

An Electric Brooder Goes to School

By ALBERT V. KREWATCH

Mr. Krewatch is Specialist in Agricultural Engineering, University of Maryland, College Park, Maryland.

THE boys in the Vocational Agriculture Class at Arundel High School, Millersville, Maryland, know how to raise chicks electrically. They remodeled a building into a brooder house on the school ground, wired it, brooded the chicks electrically and cared for them until they were grown. Some of the boys went to the school Saturday and Sunday to see that the chicks were fed and watered. The litter was changed under the brooder every Saturday.

Under the guidance of A. Gottwals, Vocational Agriculture Instructor, the boys bought 315 New Hampshire Red, U. S. Certified, pullorum tested chicks from a nearby hatchery. The brooder was of 300 chick capacity, 50 inch diameter, of the type having a fan that recirculates and brings in a supply of fresh air. They used chopped straw for litter.

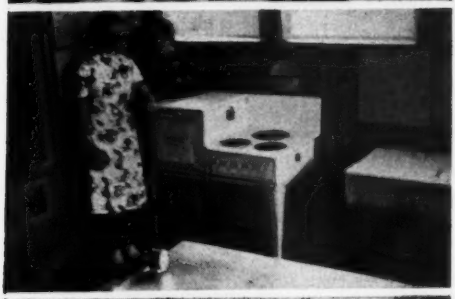
On May 6, at the end of six weeks, when the current was turned off, and the accompanying picture taken, only 14 chicks had died and five of those had been accidentally stepped on. The average weight was 20 ounces each. Seventy-four kilowatthours of electricity were used. The average cost, including the money paid for the chicks, feed, litter, and current, was 17.9c per bird at the end of this 42-day period.

All of the boys feel it was their best project in a long time. The electric brooder was its own watchman at night, and the boys had no worries. The Juniors intend to repeat the brooding work next year.

The Damascus High School students of Montgomery County have a record which is equally as good. Six 4-H club members have their brooders metered at their homes and are keeping regular club records of their work. They are demonstrating the 4-H Club motto, "Make the Best Better."

World's Poultry Congress

Anyone interested in chickens, feeds, the latest poultry plant equipment, lectures by World poultry authorities, in good entertainment, or in meeting your friends from all over the world who have a chicken interest, should have been at the World's Poultry Congress. It was a grand success. Every breed of chicken, turkey, goose, duck, bantam, most game birds, and even fur bearing mice of all hues were there. Every make and type of electric incubator, brooder, grader, candler, water-heater, lighting device, electrocutor, bleeder, scalder and waxer was on display. But it was not just a show. It was a gathering that educated the hundreds of thousands who attended and gave poultrymen an inspiration for greater accomplishment.



Vermont Rural School Gets Lights and Range

THE green hills of Vermont were illumined with smiles last spring when the Parent Teacher's Association came to the aid of a country school and helped it get electric service. The school was a quarter of a mile from the nearest power line. Requests to the school board for lights had repeatedly been turned down because of the expense of wiring the building and the monthly minimum charge for the extension of service. Finally the P. T. A. decided they would shoulder the cost of the wiring and one-third of the minimum charge. The School Committee agreed to pay the remainder. This provided for lights.

P. T. A. "Goes to Town"

Lights, however, would not use up all the electricity the minimum called for, so the P. T. A. decided to purchase a range for the school. The range would solve the problem of hot school lunches and dinners as well as aid in the all-essential task of providing food for special activities.

Besides hot lunches and dinners for the school children, the P. T. A. has served suppers for the Kiwanis Club from St. Johnsbury, the Danville Chamber of Commerce and others. The range was paid for within thirty days. In fact, the Association has earned $175 in addition to paying for the range and the wiring and are now planning to add a kitchen and manual training room to the school.

L. A. BILL.

Flyless Cows

THIS is the time of year when flies on cattle and dairy cows are particularly bad. In August, 1938, we told how Florida dairymen were helping to control these flies with electric flytraps. Here is further information on the subject.

The trap as indicated in the photograph is a chute through which the animals walk. Near the center of the chute is a canvas shield placed in such a way and held in place by springs so that practically every part of the cow's body comes in contact with it. This shield brushes off the flies as the cow passes through. The chute is enclosed on both sides and top with the exception of a panel just over the shield. Across this panel is placed an electric fly screen. As the flies are brushed off they fly toward the light and are electrocuted. The chute would, of course, be braced from the outside and is sometimes set up in a runway leading into the barn, or may be set up in an open field. If used at night, an electric light should be provided above the screen.

It is reported that where cows have made two or three trips through the chute, they pass through voluntarily, and if the barn is fly-infested they may even attempt to turn around and go back through.

An observer writes: "We have seen these traps working in Florida placed right out in the middle of the pasture, and on the days when flies are particularly bothersome to the animals, have seen the animals constantly circulating through this chute of their own accord. Quite a few dairymen are using these traps, and every man we contacted was very enthusiastic about them."

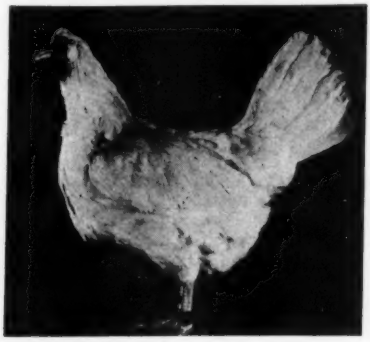
The continuous use of such traps with other means of fly control in buildings will greatly reduce the fly population, as well as affording temporary relief to the cows.

WATT'S WHAT IN HEN LIGHTING

By GEO. W. KABLE

THIS is the season for pullets to be coming in off the range and for hens to be returning from their summer "laying" vacations. Styles in summer hen clothing have not changed as they have in women's bathing suits, so these chickens may not have a perfect coat of suntan; but they will have blushing cheeks and yellow shanks and be ready to settle down to the business of egg laying.

Laying and lighting are companions in modern poultry management. There is no longer any question about lighting resulting in increased fall and winter production. There is some question *why* lights increase production, *whether* all hens should be lighted and *what* is the most effective and profitable method of lighting.



Professor Dakin of Ohio State University has produced experimental evidence that light not only lengthens the working day and feeding hours of a hen but has a direct physiological influence on her. This may eventually cause us to pay more attention to quality and intensity of light used. At present, the best we can do is to leave the *why* to investigators and apply the best information we have on *how* to get results.

Not all hens should be lighted. It should be understood that lighting is not a mystical method of getting eggs out of a hen without attention to feeding and housing. Without properly balanced rations of mash and scratch feed in the correct amounts, a hen will not have the elements within her body from which to make eggs—lights or no lights. If improperly housed or kept in unsanitary quarters the strain of increased production due to lighting may cause a physical breakdown with high mortality. It is doubtful, therefore, whether farm flocks that live on whole grain and what they can find in the barn yard would pay a return on lighting.

Goose with the Golden Egg

Some folks have had the misconception that old worn out and thin hens or poor layers can be transformed into the "goose with the golden egg" by means of lighting. It is not the hen that is the "goose" in this case. True, lights will cause these hens to lay more eggs, but the increase will not be as great as with a vigorous bird with inherent laying ability. Many producers do light these hens in the fall, get all the eggs possible during the period of high prices, and then market the birds.

The lighting of breeding stock is debatable. Some producers light all through the winter; some not at all. Since the best hatchability and sturdiest chicks result from eggs laid by hens which are on the upgrade or at the peak of production, it would seem to be poor management to force early production so that breeders will be on the down grade in vigor and laying when you start saving hatching eggs. On the other hand, lights, intelligently used, should be an effective tool in the hands of a good manager for stimulating birds physically and sexually *at the time* he wishes to start saving hatching eggs.

Any hen that lays eggs is drawing on her body resources. If she lays heavily, the strain is heavy. A hen which is to be forced into increased production through lighting should be in good physical condition, and pullets should be of full body weight. Moderate lighting with feeding which does not stimulate production may help to build body weight and hasten sexual maturity. Maybe the Golden Rule is a good one to apply to hens as well as humans. If *you* were going to have to step up from 10 to 13 hours of work a day and turn out correspondingly more products, you would want to be in good physical condition to start and have plenty of the right kind of food and a good bed, to keep going.

So far you have been given some straight facts about what you can and cannot expect from lights. The most important fact to the poultryman who really wants to make money from his flock is that lighting *will* help increase production at the times of the year when egg prices are high and hatching eggs in demand. The next question is *how?*

How to Light Hens

Cornell was one of the first Experiment Stations to publish recommendations for hen house lighting. The recommendations were to use 40 watt Mazda lamps in cone shaped reflectors 10 feet apart through the laying house and half way from the front edge of the dropping boards to the front of the house. The lamps should be high enough to shine on all the roosts so there will be no late sleepers in dark corners. The feed hoppers should be under the lights. Personally, I have always thought Cornell was rather penurious with their hens, and knowing the physiological benefit of good light on humans, and the invisibility of a grain of wheat or oats hidden in the straw, I would use 75's or 100's in place of those 40's. Both lamps and electricity are cheaper now than when Cornell recommended.

Many different routines for applying lights have been proposed: evening light, morning light, a combination of evening and morning light, nine-

o'clock lunches, and all-night lights. From what one learns from poultrymen, the time of lighting is pretty much a matter of personal preference and prejudice and of management in keeping with the system used. Where bright lights are used, the total number of hours of lighting (daylight plus lamps) should be from 12 to 14. Twenty-five watt bulbs are usually used for all-night lighting. Where morning lighting is practiced, the lights can be turned on with a simple time switch or alarm clock operated tumbler switch, and turned off by hand. For night lighting where gradual dimming is necessary to get the birds on the roosts, a more complicated wiring and control system is required.

Birds may be given 13 hours of light without any breaking-in period; but when discontinuing lights, the time should be shortened gradually to prevent throwing them into a moult.

It is important to have plenty of drinking water before the hens when they are scratching and feeding at night. In cold weather, inexpensive temperature controlled electric water warmers will keep the water from freezing.

There are a few points to be kept in mind when lighting hens to make the lights effective. Electric wire sizes should be large enough so you will have no serious drop in voltage with consequent dimming of lights. White, porcelain-lined reflectors help to put the light down on the floor where you want it and increase the intensity about 50% over bare lamps. Dirt on the lamps may cut down the light one-half and dirty reflectors reduce the light as much as 25%. Clean them every week for best results and economy.

Ultra-Violet for Additional Profits

Ultra-violet lamps offer still further profits to the poultryman who is trying to get the most from his flock. These lamps will do all that Mazda lamps will do and a few extra things. They provide the vitamin D which comes from sunlight and which seems to help confined fowls to maintain health and vigor. It is claimed that ultra-violet results in still higher production than ordinary light, and enables the hens to lay eggs with stronger shells, whites that stand up better and with a higher percent of hatchability and sturdier chicks. Experimental results on the use of ultra-violet are not as plentiful as on Mazda lighting, but hundreds of poultrymen have been convinced of its effectiveness and are using it.

There are several sources of ultra-violet. Carbon arc lamps produce it but are poorly adapted to poultry house lighting. CX lamps of 250 and 500 watts have been used quite extensively. They are used on 115 volt circuits. The ultra-violet output is relatively small in comparison with mercury arcs of equal wattage. In some cases CX lamps have not given satisfactory results. This trouble can usually be traced to low voltage; with these lamps the voltage must be kept exactly up to the lamp rating or the ultra-violet output will drop off very rapidly. S-1 and S-2 lamps are mercury arcs of 400 watts and 125 watts respectively in enclosing bulbs. They must be used with special transformers and the complete units cost from $25 to $45. The S-1 lamp is an excellent source of ultra-violet. A new lamp, the S-4 has been on the market for about a year. This lamp produces about as much ultra-violet as an S-1 lamp with one-third the power consumption. It is well worth trying for those experimentally minded. Some excellent results have been obtained. The lamp, transformer, socket and reflector for making up the S-4 unit may be purchased for about $21.

All ultra-violet lamps should have aluminum reflectors. White paints, aluminum paints and porcelain enamels do not reflect ultra-violet satisfactorily.

HOT DOGS
Roasted Electrically

JOHN E. NICHOLAS

THE Pennsylvania State College Student Branch of the American Society of Agricultural Engineers claim the first electrically roasted "Hot-Dog" festival on record. At one of its monthly gatherings the students borrowed Sam Reitz's electric hot-dog roaster which is a tribute to Sam's ingenuity and inventiveness.

The wieners are roasted by passing an electric current through them. Each end is impaled on a

metal peg, the wiener completing the electric circuit between the pegs. It is possible to roast twelve doggies at one time and, according to the budding scientists, who made the necessary electro-engineering observations, it was found that twelve "simultaneously roasting hounds" required 1,200 watts, which gradually diminished as the roasting proceeded. It required 3 to 5 minutes to complete the cooking. The power consumed in roasting was about 6 watt-hours per dog.

One of the illustrations shows the roaster in use with wieners on part of the pegs; the other shows it lying on its back. Each pair of pegs has a control switch so that any number of "dogs" from one to twelve may be roasted at one time.

130,000,000 people dropped coins in scales in 1938 to find out how much they weighed.

Electrical HOUSEKEEPING

Conducted by GAIL MEREDITH

They've Taken to Toasting

"WHERE shall I put the toaster, Aunt Ruth?" Irma asked giving the gleaming chromium a last flick with the dish towel.

"You can slip that oiled silk cover over it and leave it there on the work counter," said Ruth Dean, turning from her work at the sink. "We'll want it for lunch. In fact, we use it so often day and night that I seldom put it away on the shelf."

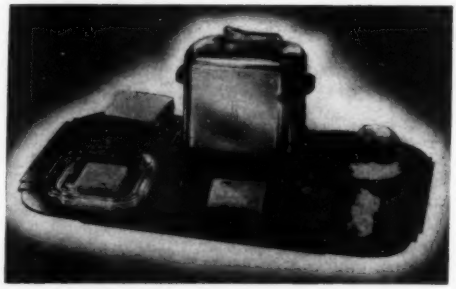
"I realize that all the Deans like toast for breakfast," laughed Irma. "I ought to after spending half an hour sliding in bread and picking off toast as it pops up out of these wells. We like toast at home, too, but we hadn't thought of crunching away on it all day."

"Before we got that toaster," said Ruth, "it was a job to get the children to do more than nibble at half a slice of bread with their breakfast, but now they manage to get to the table early enough to eat a couple of slices of hot toast and jam with their cereal."

"But what about lunch, Aunt Ruth? Do we make toast again for lunch?"

"We do," answered Ruth firmly. "We'll be having it under chipped beef. And because you are company, the girls will cut the slices of toast into circles and rings with cooky cutters. Then they'll make a basket by setting one or two of the rings on each circle. It tastes the same, but it looks much more dressed up."

"Instead of pastry shells!" said Irma's mother from the doorway. "Not nearly so rich, easy to make, and very good."



Ruth nodded.

"Maybe you think it is foolish to make toast to bake with, Anne," she went on, but I do like it for apple betty and bread pudding and rolled fine to top creamed dishes. So if nobody's eyes were bigger than his stomach, and there is no left over toast, I just sit down and toast me a few slices to use."

Anne Cameron nodded understandingly. "Why not? And what about toast for dinner? creamed chicken?"

"Sometimes," answered Ruth. "But the thing we like best is to toast a few slices and cut them into tiny cubes for croutons to float on top of the soup. Or to cut them in narrow strips to eat with it, or with a salad if we are being very formal and having the salad as a separate course."

"The girls have several ways of dressing up these strips, too. They roll them in melted butter and then in grated cheese, or in a pile of sugar and cinnamon. Tastes good and looks good, too."

Anne picked up the towel Irma had dropped on the table.

All Day Work for a Toaster

"That is getting a good day's work from that piece of machinery," she said folding the towel over the rack by the range. "I think you are getting your money's worth."

Ruth closed the cupboard door on the can of cleanser she had been using.

"It's probably worth more than all the rest to have it for midnight snacks," she said seriously.

"Snacks?" gasped Anne and her daughter with one breath.

"With the twins at the dating age, and a boy always rushing off to pitch a little woo, as he says, I'm doing my best to make them want to

Taking Care of the Toaster

Get the crumbs out after every using or they will char and stick to the toaster.

If there is a crumb tray or a removable bottom to the toaster, that does it.

If it has no tray, turn it upside down or over on its side and shake the crumbs out.

A soft brush helps get them out, too. Use it carefully so you will not damage the wires.

After the toaster is cold, rub it with a dry cloth. If it has grease spots, go over it with a damp soapy cloth, then rub it dry. Be careful not to get the heating unit wet.

Pull out the plug when you are through using the toaster. The wire of any electric heating unit is built to last a certain number of hours of use. If you leave the current on when you aren't needing the toaster, you just waste a part of its useful life.

Besides that, turning on the electricity in any heating device and leaving it on indefinitely, unwatched, does set up an entirely unnecessary fire hazard.

come home from the movies, home after basket ball games, to come home after high school dances and eat right here in their own kitchen. Then we'll know just where they are a little longer."

"How is it working out?," asked Anne.

"Pretty well. The boys like to plug in the toaster, and make the toast while the girls get the sandwich combinations together. Hot sandwiches and hot cocoa do not cost much. Once in a while I surprise them with a cake or they make a batch of candy, but most of the time, they just work out some kind of a snack with toast as their standard start."

"Pretty smooth," said Irma smiling at her aunt, and giving her mother a pat as she passed. "If the idea isn't copyrighted, I believe we'll try it out over at the Camerons. Breakfast, lunch and dinner,—particularly that midnight appearance. Round the clock with the toaster. Not a bit bad, Aunt Ruth. Not a bit bad."

• • •

FAST or SLOW

WELL, they've done it again. Here is the new fall model of a mixer with something particularly elegant in speed controls. You just turn the dial to the spot marked 6 and you get the

perfect speed for whipping cream. Or you slip it around to 2 for mashing potatoes and on to 5 to whip them up with hot milk and melted butter for their final appearance.

And you do not have to stop and try to remember whether you want 3 or 7 to beat eggs. It is all written out for you, right on the dial.

You can select any one of ten speeds, each specially designed for the job you want to do. No one need think for a minute that these speeds were selected at random, either. The research workers in the laboratories of Good Housekeeping Institute have tested them for ten of the ordinary, every day mixing jobs in your kitchen and have given them their approval.

• • •

LESS DUST—More Cleaning

THE coming of the electrical revolution makes different changes in different households. Mrs. C. J. Potter of Metamora, O. told me not long

THE BATH AT "STONY ACRES"

Winning Letter for June Contest

If you have been in doubt whether there is a place in your house where you could put a bathroom, do take heart and keep planning. Women with houses that looked as though they couldn't possibly stretch around another room have cut bathrooms off bedrooms, and made them out of pantrys, porches, hallways and coal bins. And right good bathrooms, too. Mrs. Campbell tells us about hers this month.

* * *

When buying a small farm, after living in the city and having everything modern, we wanted to make our farm home just as modern and convenient as a city home, in which project we feel we have succeeded. I believe the convenience we appreciate most is the bath. This room was one of the first planned, but the last completed.

The small white cottage on our little farm was composed of five rooms and an L shaped porch, which we enclosed. A door leading from one end of this porch opened into a long narrow bedroom. We took almost one-third of this room and made a lovely bath, using the end near the porch. We took the door leading to porch off the hinges, boarded up the side next the porch, which left a space on the bathroom side in which we put shelves and mirrored door (for shaving material, tooth brushes, etc.), but leaving enough space on each side in the old door inset for four little pigeon holes for fancy perfume bottles, powder dishes, etc. We had a long electric light put up and down each side of the new frame, which we put around the old door opening. Below one light we have a lotion dispenser and below the other a chromium container for tumbler, which is yellow with blue flowers painted on, blending with the color scheme of canary yellow and sky blue. These shelves are built to meet the top of a pedestal lavatory which sets in front of old door opening.

In entering bath off kitchen, to left is white utility cupboard for storing medicines, toilet tissue, paper towels, etc. On top of this cupboard we always keep handy a large electric heater with a flower as center heating unit. Heater is all chromium and white. Beyond the cupboard on left side is a silent stool and then the lavatory. On right is closet to small bedroom (balance of long narrow bedroom). Access is made to bath from this bedroom thru closet. Then to extreme outer wall on right side is a linen cupboard with shelves which slide in and out. Between these two closets is the tub and shower alcove. The tub has a convenient seat in front. Shower curtains are of yellow oil skin with sky blue wash silk drapes over them.

In outer wall, which is southern exposure, we put a pair of French windows, beneath

(More on page 20)

WESTINGHOUSE WATER HEATERS SAVE TIME AND WORK, END FIRE HAZARDS, INCREASE MILK PROFITS ON PEET FARM!

On the Peet farm there's a thrifty Westinghouse Automatic Water Heater in the home, and *another* in the milk house.

Mr. Peet says, "For anyone who has a better price market for low bacteria count milk, hot water at the barn or milk house is vitally essential. There's no fire hazard in a Westinghouse, yet there's always plenty of hot water for washing milking utensils, and for feeding calves, pigs, chickens.

"As for time saving, we wash milk 'things' in almost the time it used to take to carry them to the house and back."

See the safe, dependable Farm-proved Westinghouse Water Heaters at your dealer's. Find out how you can have all the hot water you want, whenever you want it — without work, dirt, or worry — *at amazingly low cost!*

FREE! **"Farm Help From the High Line!"**

Big, free, illustrated book gives you all the facts about Farm-proved Water Heaters and other Westinghouse farm helpers that pay for themselves in savings. Write Westinghouse Electric & Manufacturing Company, Mansfield, Ohio, Department 9105.

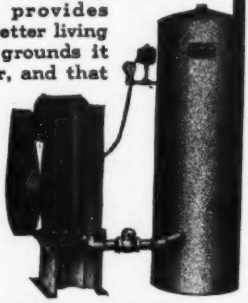
"Merely a turn of the faucet, and there's all the hot water we need!" says Mrs. Peet. No more carrying water to the stove to heat for washday and for cleaning milking utensils. Mrs. Peet's Westinghouse saves hours of time and labor.

Westinghouse Water Heaters

A SURVEY shows that running water saves a woman 3 to 4 hours a week in washing dishes alone. Help your wife save this time for more pleasant occupation with a modern **Aermotor Water System.**

● An **Aermotor Water System** also eliminates many other disagreeable tasks, such as laundering without running water. In the bathroom it provides more comfort and better living for all. About the grounds it saves time and labor, and that means money saved.

● Running Water, in the icy days of winter and the hot days of summer — no matter when — can be yours at low cost with an **Aermotor** System.



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Gentlemen: Please send FREE copy of your "FACTS" Book about AERMOTOR WATER SYSTEMS.

Name_____

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AERMOTOR CO. 2500 ROOSEVELT ROAD CHICAGO, ILLINOIS

September Contest. Christmas Desires

Christmas sounds a long way off, but it really isn't too early to get our Christmas lists started anyway. So our contest this month will be a letter on "What I'd Like for Christmas." Not too long; not too short. If you can crowd your longings into three to five hundred words, that will please us best.

We will pay five dollars to the writer of the letter we publish. If there are any other letters we can use, we will pay one dollar a piece for them.

Contest closes September 20.

Send your letters to Gail Meredith, 1026 Seminole Highway, Madison, Wisconsin.

ago what a changed job cleaning has turned out to be at her house since she does it with a motor instead of a broom.

"To begin with," she said, "my vacuum cleaner was not cordially received by all the members of my family. It had to make good to stay, and it has. Let me tell you how I used to get through the cleaning.

"My ingrain and good looking rag carpets were always dusty in spite of whipping on a line and the grass. When I began to clean a room, I had to move all the furniture I could lift and cover the rest with sheets and then raise a broom dust. After the dust settled, I had to move the furniture and bric a brac into place again. That meant cleaning one room at a time.

"It took me three or four hours to clean four rooms and the hallway. Often after these 'broom dust sweeps,' I was ill for a short time.

"Then came a day when a member of my family

(Here from page 18)

which we have a kidney shaped vanity with a beveled glass top, and on which we put a small triple mirror and two lamps, similar to the ones above lavatory.

Last winter I made a trellis of canary yellow cord, on which twined heavenly blue morning glories from yellow pots, with blue drapes at windows matching those on shower.

We have blue linoleum on floor with yellow feature stripes. Dome light on sky blue ceiling with stars in sky, side walls yellow with blue water lillies.

We have double electric outlets convenient to both lavatory and vanity. Have a small nite light of ivory with blue bulb, which we leave on at nite for convenience of guests, and it doesn't waken one so much as switching on the bright lights when getting up nites. And it uses practically no electricity.

We, at "Stony Acres," feel there is nothing like "Electricity on the Farm."

MRS. CLEM J. CAMPBELL,
Campbell's Stony Acres,
West Alexandria, Ohio.

was seriously ill for four months. It would have been a crime to raise a broom dust, so I cleaned away, the best, I could, behind closed doors.

"When I had word that I was going to have overnight visitors, I frequently hired my cleaning done so that all of my house would be clean at one time, and so I would be in a condition to enjoy my guests."

Then she got her vacuum cleaner.

"Now I can do those same four rooms in less than an hour, and my whole house in less than two hours. And while I am saving time, I'm saving my health, too."

And the neighbors make use of that cleaner, too.

"A good friend of mine, from a road where the highline does not go," said Mrs. Potter, "brings the large family car over to our house and cleans the upholstery with my vacuum cleaner. She enjoys the car more when it is clean, and she hasn't brushed and brushed till her arms ached, and her hair was dusty and her face black.

"I have had my vacuum cleaner for six years now and it has cost me just twenty-five cents for repairs."

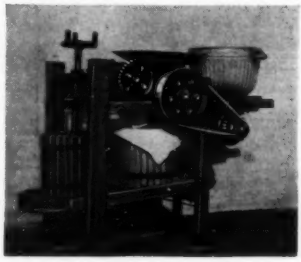
Gas in Silos

Each fall a number of persons are suffocated by carbon-dioxide gas in silos. This gas is heavier than air. Leave the doors out of the silo above where it is filled. Blow out the gas from pit and other silos with the blower on the cutter before entering; or stir the air in a pit silo with baskets or a blanket lowered by ropes. If a lantern will not burn in the silo, it is not safe.

THE COVER

This month's cover shows the milking parlor at the New York World's Fair Electrified farm. Two cows are milked at a time, the milk passing from the receivers through sanitary pipe directly to the electric pasteurizer, cooler, irradiator and bottler in the milk room. The shadows on the floor are of people watching the operation through the observation window.

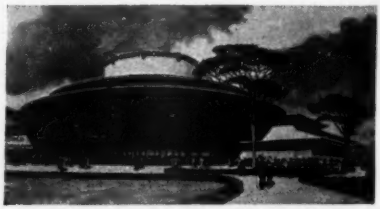
Motor Driven Cider Press



A HOME cider press with ½ h.p. motor attached. It should be driven with a V belt. Another method of attaching the motor would be to build a small platform under the basket and brace it to the legs. By putting rocker rails made of wood or ½-inch pipe on the motor, its weight could be utilized to keep the belt tight, and the motor could easily be moved from one job to another. Put on a wire handle for convenience.

All cows at the NEW YORK WORLD'S FAIR and GOLDEN GATE EXPOSITION milked with

DE LAVAL MAGNETIC MILKERS



THAT De Laval Milkers are used exclusively at these two great expositions, to demonstrate the best methods of clean milk production, is a tribute to their economy, efficiency and superiority.

At New York 150 cows, selected from leading herds of all dairy breeds, are milked in the spectacular "Dairy World of Tomorrow," with De Laval Magnetic Milkers. At the "Electrified Farm" of the New York Fair a fine herd is also milked the De Laval Way.

At San Francisco, in the Dairy Industries Exhibit, De Laval Magnetics are doing their dependable work.

These De Lavals milk in exactly the same way as all other De Laval Magnetic Milkers, everywhere acknowledged to be the world's best.

For best, fastest and cleanest milking, use De Lavals.

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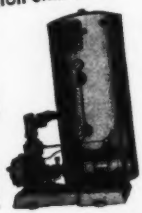
● Only one moving part . . . **no metal-to-metal contact.**

● **Over 125,000 Westco's in actual use.**



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The New Automatic
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This new inexpensive *portable water heater* plugs in anywhere. Heats fast at low cost. Sturdy, built to "take punishment"; holds nearly 14 quarts; ten-foot cord. And note this—

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It *can't burn out,* can't cause a fire. If you go away and forget it, it will turn itself off when the water gets low! No other portable water heater does this.

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1803 E. ATWATER DETROIT, MICH.

Hoisting Baled Hay

SEVERAL months ago you mentioned under Questions and Answers several methods of elevating baled hay. Here is another which is a good one.

The four-tined fork shown in an accompanying picture is set to hoist seven bales of hay. After a little experience is gained in setting the fork, it never drops a bale and trips easily. The fork is made in three sizes. This is the medium size. I have also observed this fork in operation hoisting loose hay for three seasons. It does a fine job. In my opinion, it is much more desirable than slings for hoisting either loose or baled hay.

J. W. WEAVER, Agricultural Engineer,
Virginia Polytechnic Institute.

From a New User

Since getting "Elec" to help with my work
I find it so handy—it never will shirk.
It washes and irons, it roasts, broils and fries
It bakes wondrous cookies and grand cakes and pies.
It "perks" all the coffee—does the cleaning "just so"
While a flip of the button starts our good radio.
I'm looking around for a 'lectric device
To do all my dusting—I think 'twould be nice.
And one for the mending—a job I *detest!*
Twould give me more time for a much needed rest!
But, I do want to tell you—if you should inquire
That I'm glad I can cook now—"By wire—not fire."

MRS. STANLEY E. MARSH
R. No. 1, Box 107
Buchanan, Michigan

Motor on Seed Cleaner Pays Way

Robert Rodgers of the Bellevue community in Lincoln County, Tennessee, installed a ¼ hp. motor on a seed cleaner. It was used two 10-hour days to clean lespedeza seed at an electricity cost of about 5 cents. A neighboring farmer did a less amount of seed cleaning the same week, but he hired a man to turn the cleaner at a cost of $2.00. In other words, Mr. Rodgers paid 1/6 of his investment in the motor in the first two days of use.

From a report by M. M. Johns, State Rural Electrification Specialist.

DR. Harry T. Pine, President of the American Optometric Association, recently stated before the Edison Electric Institute that whenever a patient is fitted with glasses a prescription for light should always accompany the prescription for lenses. "First of all," he said, "there must be enough light for the task involved. Secondly, there must be a proper distribution of light and an absense of glare.

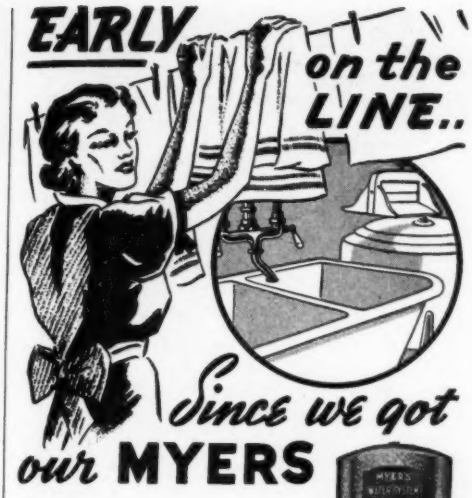
New Publications

RURAL WATER SUPPLY AND SANITATION, by Prof. Forrest B. Wright of Cornell. Part 1 tells how to do 24 different jobs connected with plumbing, pipe fitting and sewage disposal. Part 2 is devoted to sources of water supply, pumps, water systems, plumbing systems, and septic tanks. 288 pp., illustrated, $2.50. John Wiley & Sons, Inc.

SOME THINGS A FARMER SHOULD KNOW ABOUT ELECTRICITY. Popular Bulletin 157. State College of Washington, Agricultural Experiment Station, Pullman, Washington, January, 1939.

EQUIPMENT FOR DAIRY AND HORSE BARNS, POULTRY AND HOG HOUSES, GATES, FENCING. A 232-page catalog giving plans and dimensions of barns, feed stalls, ventilators and illustrating a great variety of farm building equipment. Clay Equipment Corp., Cedar Falls, Ia., Birmingham, N. Y., Oakland, Cal.

"It's bad enough to be spanked by hand, but I heard Mom say she's buying an electric beater!"



NO more endless running with buckets to fill the tubs. Instead, hot or cold water at the turn of a faucet! Wash day labors—and countless other problems of sanitation and housekeeping—are indeed made lighter when you install a reliable, precision built MYERS Water System. The same dependable source of water supply shortens many a barnyard task and brings added profits as well. The famous old MYERS trademark has guaranteed *adequate water system capacity*, as well as lifelong durability and economy, for thousands of farmers. You are sure to find a MYERS Water System that exactly fits your needs. Deep and shallow well models, for operation by electricity, gasoline engine, windmill, or hand power. Interesting booklet free. Write TODAY.

Ask the nearest MYERS dealer about the new, electrically operated MYERS *Ejecto* Water Systems — the simplest, quietest, most troubleproof water systems ever designed. For pumping from wells up to 120 feet water levels.

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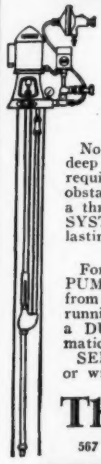

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ON THE AIR

Conducted by
JEROME J. HENRY

Radio Serves Youth Best

YOUTH is served best in radio, according to Vernon Crane, creator of the Story Book program. A youthful appearance, he argues, doesn't militate against an individual in radio as it does on the stage, for example.

In radio youth can portray any role from a squalling youngster to an old man of 90 and no one questions the authenticity of the character.

Vernon goes a bit beyond that. In his programs, he supplies practically all his sound effects. In addition to giving "voice" to such diversified objects as "littlest locomotives in roundhouses" and "college educated echoes," Crane also has simulated the sounds of bubbling fountains and termites nibbling on the bottom of a stout old whaling ship.

Here's Andy Devine, his son, Tad, and the new baby with Mrs. Devine.

• • •

Now the Bassoon—There's a Future

IF your youngster doesn't want to study those piano or violin lessons, buy him a bassoon. That's the advice of conductor Roy Shield, based on the observation that if you insist on the child's studying music it's better to let him take up something that has a chance of making a living for him. Shield declares in a thoroughly practically way:

"Thousands of American children are studying violin in the face of almost insurmountable competition. The same statement can be made for

piano students, and while study of both these instruments is certainly worthwhile, parents should have regard for the fact that the professional fields are already jammed with specialists in piano and violin. A better service to the youngster would be to introduce him to a bassoon or French horn, for while these are difficult instruments to master, the fact that they are difficult has kept the field from being crowded.

"One of the smartest lads I know was a chap who enrolled at the University of Illinois a few years ago. He liked to watch football and figured that a good way to seeing all the games and travelling with the team would be to get on the school band. That fall 109 cornet players tried out for band jobs. My young friend who had foreseen that situation, got his own place on the band without a struggle. During the summer he had learned how to play a bassoon, and not one other bassoon player showed up for a try out."

• • •

Puts in Plenty of Time

A DANCE band conductor puts in time as well as beats it out, radio fans ought to know.

John Scott Trotter, who has begun his third year with the Music Hall broadcast, works 63 hours a week for his one hour show on the air. That means nine hours every day of the week including Sundays.

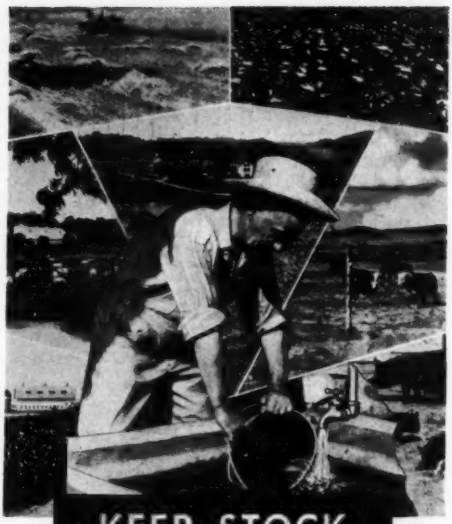
Trotter does all his own arranging and rehearsing. In the 104 broadcasts he has directed in the last two years, the chubby young conductor estimates he has written six million notes during 6,552 hours of work.

So interested does he become in arranging that it is not unusual for him to sit at his piano 48 hours at a stretch, scribbling notes until blisters are raised on his fingertips. He is at his keyboard at 6:30 every morning.

Trotter's task might be easier if he allowed the melody to predominate, but he so arranges his music to keep Bing Crosby or Pat Friday at the foreground of every song they sing.

Trotter rooms in Hollywood, California with Skinnay Ennis, who conducts an orchestra until 2:00 a.m., and Ennis somehow manages to sleep through his room-mate's sunrise music.

Three good heads answering questions during the popular "Information Please" program. They are from left to right: Hendrick Van Loon, famous writer; John Kiernan, and Franklin P. Adams.



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Noted for efficiency, durability, economy and adequate capacity, Goulds CID Water Systems are making farming more profitable and comfortable for thousands of families. The design and construction of Goulds CID Water Supply Systems assure trouble-free operation with the minimum of attention.

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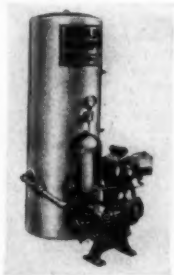
Ask for complete information and recommendations as to the Goulds CID Water System best suited to meet your needs.



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VARIETY-LITE
NEW LOW COST PORTABLE FLOODLIGHT FOR FARM FUN
on the farm! Think of how your family and friends will enjoy a yard floodlighted for night sports, night parties, etc. Provides protection against prowlers, too! Use it for night work. Take it from one location to another. A quality product made of lifetime porcelain enameled steel. Complete with unbreakable plug and extension cord . . . efficient—low priced.
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With a Speedy Sprayer you or the boy can do just about any paint job 5 to 7 times faster, better, and at low cost. Electric models, $5.10 to $35.00—auto, truck and tractor models, $2.50 to $11.00, spray paint, enamel, varnish, lacquer, insecticides, disinfectants. Special chuck inflates tires. It's fun to paint this modern, easy way, and it saves you money, saves your time, saves your buildings and equipment. Send a postcard for complete information on Speedy Sprayers, or see your dealer.
DEALERS: Send for catalog, price list, discounts on Speedy electric and auto-power Sprayers.
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Chicago, Ill., U. S. A.

QUESTIONS and ANSWERS

Burglar Alarm

Question: *Thieves stealing our turkeys pull the wire screen off the windows and go in that way. Is there an alarm outfit that will go off when a wire stretched across a window is broken?* L. H. A., N. J.

Answer: You can obtain burglar alarm systems of the closed circuit type, which is what you should have, from the Lyon Rural Electric Company, San Diego, Calif., and also from the Struthers-Dunn Company, Philadelphia, Pa.

Tobacco Curing with Electricity

Question: *If there are any reports or information available concerning tobacco curing with electricity, we shall appreciate very much receiving copies of them.* C. P. S., Va.

Answer: The U. S. Tobacco Experiment Station at Greenville, Tenn., and the Kentucky Experiment Station, Lexington, Ky., have been conducting experimental work on tobacco curing with the aid of electricity for several years. No reports for general circulation have been published.

Electric Stirrer for Ice Cream

Question: *I believe that a device to stir ice-cream in the making in an electric refrigerator would be a good contribution to greater consumption of dairy products. We find ice-cream to be one of our most valuable foods. Have you any suggestions as to how we could get some manufacturer to build such a stirrer?* S. W. B., Minnesota.

Answer: A motor-driven ice cream stirrer for use in the freezing compartment of an electric refrigerator is now on the market. It is made by the Hamilton-Beach Company of Racine, Wisconsin.

Electric Hedge Trimmer and Lawn Edger

Question: *Can you give me the address of the manufacturer of a lawn edger and hedge trimmer that operate by an electric motor from power generated by a small gasoline engine that can be moved from place to place?* R. J. B., Vt.

Answer: The following are companies making hedge trimmers: Syracuse Electric Tool Mfg. Corp., 1720 N. Salina St., Syracuse, N. Y.; Dumore Mfg. Co., Racine, Wis.; and Skilsaw, Inc., 3345 Elson Ave., Chicago. An electric edger is made by the Coldwell Lawnmower Co. of Newburgh, N. Y. Small 100 volt generators may be obtained from Electric Mchy. Mfg. Co., Minneapolis; Delco, Inc., Rochester, N. Y.; U. S. Motors Corp., Oshkosh, Wisc.; and the Kohler Co., Milwaukee, Wis.

Fence Makes Radio Noises

Question: *Our neighbor uses an electric fence which is very troublesome for radio reception both*

for their own and the radios in the neighborhood producing a loud, fast "tick-tick." He is not on a power line but stores his own. Is there a defect in the set-up somewhere? We would like to know if there isn't some way of eliminating the constant noise. MRS. W. T. H., WIS.

Answer: Electric fence controllers operate on different principles, but with nearly all of these controllers, radio interference may be quite effectively taken care of by placing a suitable condenser across the breaker points of the circuit. The better fence controllers have this device built into the unit. I would write to the manufacturer of the fencing unit for his recommendations.

Fly Traps

Question: *Can you give me more information about the electric fly trap shown on p. 11 of the July issue: Cost, where to get it?* M. T. McD., Md.

Answer: Electric fly-traps such as shown in our July issue have a metal grill work over a box. This grill work carries a high-voltage electric current of low amperage which is sufficient to kill flies but will not injure human beings. The trap is plugged into the 110 volt electric circuit and has a small transformer in one end for changing the current. It uses only a small amount of electricity, possibly 10 kw-hr per month. These traps are made by the Lyon Rural Electric Co., San Diego, Cal.; the National Electric Screen Co., Chicago, and the Monolite Company, Berkeley, Cal. The prices vary from $8.00 to about $15.00. We are asking each of these companies to send you their literature.

5 H.P. Motor or 12 H.P. Gas Engine?

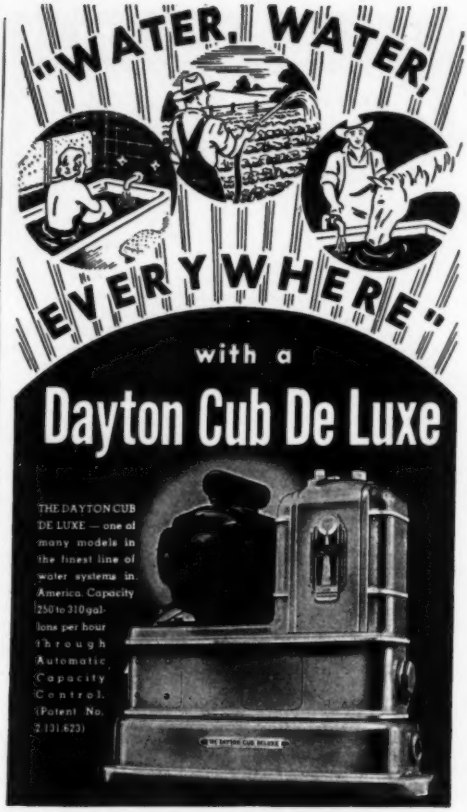
Question: *I notice some farmers use 5 and 7½ h.p. motors on their ensilage cutters. Our 12 h.p. one cylinder gas engine is about worn out and must be replaced. What size motor should I use on a Blizzard 11 in. cutter? It is also a question in my mind how an electric motor of such low horsepower can operate a cutter which makes a gas engine of much higher rating labor under strain.* W. F. B., Pa.

Answer: The Blizzard Manufacturing Company recommend a 5 h.p. motor. The cutter should be slowed down to run at about 500 revolutions per minue. The reason a 5 h.p. motor will handle an ensilage cutter better than a gasoline engine of higher rating is that motors have great reserve power for short periods of time. An electric motor, for instance, may carry two to three times its rated h.p. for short periods, whereas a gas engine has practically no reserve power above its rating. You cannot expect to pull 10 h.p. constantly with a 5 h.p. motor, but the load on an ensilage cutter is very uneven, giving the motor periods of partial rest and recovery between load peaks.

Motor and Pipe Size

Question: *What size motor would it take to pump the water from a spring a mile and quarter with about 20 ft. lift; and what size pipe should be used? Would want to pump about 10,000 to 15,000 gals. per day in spraying time, could run the pump at night to get a start for the next day. Only want this water to spray with.* E. D. F., VA.

Answer: If you use 1¼" pipe, you will need a 3 h.p. motor which will use about 2½ kw-hr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with a
Dayton Cub De Luxe
THE DAYTON CUB DE LUXE — one of many models in the finest line of water systems in America. Capacity 250 to 310 gallons per hour through Automatic Capacity Control. (Patent No. 2,131,623)

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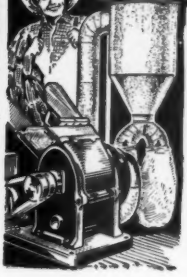
IT'S THE BELL GRINDER

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Send for valuable FREE Book on Stock Feed Grinding, and low factory prices on Mills, Corn Shellers and Mixers.
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for each hour of pumping. If you use 1½" pipe, you will need a 1½ h.p. motor which will use about 1.2 kw-hr each hour. Should you use a 2" pipe, a 1 h.p. motor will be ample, and it will consume only about 6/10 of kw-hr each hour. These calculations have been based on using your pump 20 hours per day during the spraying season and on an overall efficiency of the pump and motor of 35%. The size of pipe and motor to use will depend upon the cost of the pipe installed and the cost of motor and electricity. You will have to strike a balance using local prices. If you were going to pump for long periods, I would recommend the larger sized pipe.

Removing Metal from Feed

Question: *Can you give me any experiences or information about methods of removing metals from grain being fed to a hammer mill, by means of electro-magnets?* J. G. S., VA.

Answer: It would be well to pass the grain through a screen of ⅜" or ½" hardware cloth to remove large foreign bodies and non-magnetic metals. The grain should then be dropped on to a wooden chute which feeds into the hopper of the grinder. Place magnets up through the bottom of the chute with the ends extending about ⅛" above the floor, or place them above the chute with the ends extending within about ¼" of the floor. These magnets may be permanent magnets such as taken from a Model-T Ford magneto, or they may be electro-magnets which may be purchased from a mill-supply house or made up by a local motor repairman.

One Jet Pump for Two Wells

Question: *I have a well 10 ft. deep in my basement from which I wish to pump water, but as I do not think this well will give me enough water during the summer months, I wish to also pump with the same pump from a ravine running alongside my house with a lift of about 30 ft. Would a jet pump be suitable for this, placing the pump in the basement where it would not freeze?*
A. J. G., BRITISH COLUMBIA

Answer: I see no reason why you could not use a jet pump as suggested. You would need a cut-off valve in each suction line so you could close off one line when you were using the other. If you pump water from a ravine for drinking purposes, I would suggest that you have it tested for purity if there is any possible chance of contamination up the ravine.

Turkeys Need More Vitamin D

Scientists at the University of California say that young turkeys need ten times as much vitamin D as young chicks do. They believe this to be the reason that young turkeys may develop rickets when fed on the mash that chicks thrive on.

EASIER, CLEANER, FASTER MILKING
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The new Perfection MILK MASTER brings the greatest advance in machine milking ever offered dairymen. This remarkable Milker adjusts suction automatically for each teat. Action is smooth and gentle. Milk-flow is increased and your profits go up. The Milk-Master works fast and handles so easily your boys and girls can operate it. Don't postpone—see the Milk-Master at your dealer's. Request a demonstration or write us for folder.
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Names and addresses of manufacturers of the articles described in this column will gladly be furnished upon request to What's New Department, ELECTRICITY ON THE FARM, *24 West 40th Street, New York, N. Y.*

Lock Receptacle for Cord Plugs

Here is a receptacle which may be installed to prevent vacuum sweeper cords, etc., from pulling out. It takes any standard parallel blade cap. A slight twist to the right locks it in; or if inserted without twisting, it pulls out readily.

Impregnated Protection-Board for Floors

An asphalt-impregnated insulating board recently placed on the market is attracting attention as a warm, durable and sanitary floor covering for hog and calf pens and poultry houses, and as an overlay in cow stalls. The impregnating compound is entirely through the board which is resilient and comfortable to stand on, heals quickly if punctured and is easy to keep clean, according to claims made for it. Approx. price 18c. per sq. ft. including mastic for applying to wood or concrete floors.

Electro-Pail

A 14 quart galvanized pail with a 1250 watt, 115 volt heating element having a safety plug which pops out should water get low or too hot. It is equipped with 10 ft. of rubber covered cord and sells for $7.50. In a test, 11 qts. of water were heated from 62° to 150° in 33 minutes and to 212° in 63 minutes.

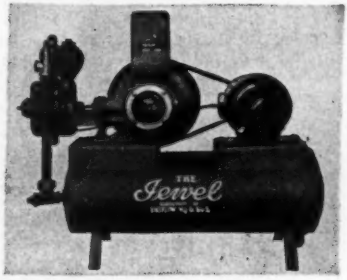
1½-2 H.P. Cylinder Corn Sheller

This sheller which is similar in appearance to other cylinder shellers is designed especially for use with 1½ and 2 h.p. electric motors. It is equipped with Fafnir ball bearings for both rotation and end thrust and may be provided with a connection feeding into the blower-elevator of a

JEWEL-25 SYSTEM

$55.00

EASY TERMS



JEWEL-25—250 G. P. H. Automatic Shallow Well Pump—5 gal. galv. tank—Capacitor Motor—Relief Valve and Strainer completely assembled in one crate. One of scores of shallow and deep well system values listed in the Uniflow 1939 Catalog — Write for copy. Pumps from $40.00 up. Systems from $47.00 up.

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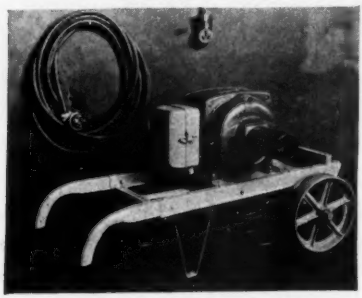
hammer mill. A capacity of 60-75 bu. per hr. is claimed with a 1½ h.p. motor and 75 to 100 bu. per hr. with a 2 h.p. motor. Sheller without motor or pulley $50.

5 H.P. Portable Motor

The truck illustrated has an all steel body with wood handles, 12 in., pressure gun lubricated wheels and an open tool box in front of the motor. Truck $15. Equipped with nationally known re-



pulsion-induction 5 h.p. single phase, 1750 RPM motors with magnetic switch and over-load and under-voltage protection, 40 ft. of 2-No. 8 rubber cable, 3-pole plug and receptacle, and 2 steel pulleys, for $215 f.o.b. These trucks are light, strong, easy to handle and are equipped with the best motors and controls, especially selected for farm use.

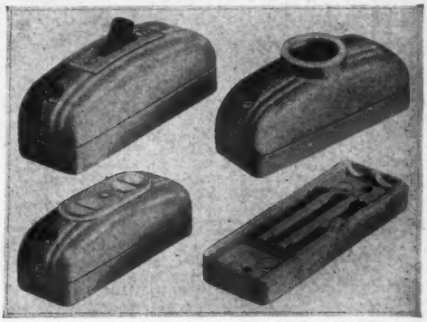
Pressure Switch for Water Pumps

This single-pole pressure switch has a built-in phosphor bronze diaphragm, simple lever system,

Alnico magnet contact mechanism and corrosion resistant parts. It is claimed to be exceptionally sturdy, quiet and dependable in operation. Designed for damp places, adjustable 10-30 pounds to 60-80 pounds cut-in and cut-out pressures.

Surface Outlets for Exposed Wiring or Wiring Extensions

Several companies have just placed on the market a line of porcelain devices combining outlets and outlet boxes for surface wiring. The line includes tumbler switches, duplex convenience outlets, keyless lamp bases, pull chain lamp bases, outlets for drop cords and blanks for future outlets. These are the best and easiest to wire outlets we have seen for surface work. They require no metal boxes and are especially suited for use with non-metallic sheath cable for wiring houses already built or for surface extensions to existing



wiring. The base illustrated is distinctive in that all the caps fit this same base and are interchangeable. Approved by Underwriters Laboratories.

New Publications

"How Electricity Is Used on the Farm" by C. N. Turner, Extension Bul. 410, Cornell University, Ithaca, N. Y. 48 pp., mostly illustrations.

"Haying in the Rain"—a study of grass silage, Bul. 362, by Profs. Archibald and Parsons, Massachusetts State College, Amherst, Mass. 22 pp.

"Silos—Types and Construction." Construction needs for grass and corn silage, by J. R. McCalmont. 62 pp. Farmer's Bul. 1820 US.D.A., Washington, D. C.

"Propagating and Growing Plants with Electric Heat" by F. M. Hunter and R. O. Monosmith. Exten. Bul. 106, Mississippi State College, State College, Miss. 40 pp.

"The Farm Freezing Plant and How to Use It," Extension Bulletin 249, State College of Washington, Extension Service, Pullman, Washington, April, 1939.

"Electric Fence and Pasture Management," Extension Bulletin 261, University of Maine, Agricultural Extension Service, Orono, Maine, 1939.

"Farm Storages for New England Apples," Bulletin 360, Massachusetts State College, Agricultural Experiment Station, Amherst, Massachusetts, March, 1939.

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